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AMENDMENTS TO CLAIMS

The following listing of the claims replaces all prior versions and listings of the claims in relation to the present patent application.

Listing of the Claims

1. (Original) A wellhead casing hanger, comprising:
a hanger body, said hanger body having a bore extending therethrough and a tapered hanger bowl to receive a plurality of slip segments therein;
said hanger body having a stepped outer shoulder, said stepped outer shoulder configured to receive a plurality of load segments thereon;
said plurality of load segments axially moveable between a first, contracted position allowing said wellhead casing hanger to pass through a specified minimum bore and a second, expanded position whereby said wellhead casing hanger is suspended on said plurality of load segments when said plurality of load segments engage an annular groove in a wellhead housing; said plurality of load segments moved between said first, contracted position and said second, expanded position by engagement of an actuation ring with a shoulder in said wellhead housing; and, said plurality of slip segments having a complementary exterior taper to engage said tapered hanger bowl, said plurality of slip segments coaxially moveable with respect to said tapered hanger bowl.
2. (Original) A wellhead casing hanger, according to claim 1, wherein: said hanger body may be separated into a plurality of bowl sections to allow installing said wellhead casing hanger around a section of pipe extending through said wellhead housing.
3. (Original) A wellhead casing hanger, according to claim 2, wherein: said slip segments included a plurality of teeth formed on the interior and exterior thereof.

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4. (Original) A wellhead casing hanger, according to claim 3, wherein: said plurality of teeth formed on the interior of said slip segments are beveled to grip a section of pipe extending through said wellhead housing when said slip segments are moved radially inwardly along said tapered hanger bowl.

5. (Original) A wellhead casing hanger, according to claim 4, wherein: said plurality of teeth formed on the exterior of said slip segments remain perpendicular to said tapered hanger bowl when said slip segments are moved radially inwardly along said tapered hanger bowl.

6. (Original) A wellhead casing hanger, according to claim 5, wherein: said stepped outer shoulder includes a cylindrical retainer surface concentric with the axis of said hanger body; and, said cylindrical retainer surface engages said plurality of load segments to positively retain said plurality of load segments in engagement with said annular groove in said wellhead housing.

7. (Original) A wellhead casing hanger, according to claim 6, wherein: said hanger body has a plurality of axially disposed slots formed therein; a retaining means is positioned in each of said plurality of axially disposed slots, said retaining means engages said slip segments; and, said retaining means are moveable within said axially disposed slots in said hanger body to control movement of said slip segments along said tapered hanger bowl and into gripping engagement with said pipe extending through said wellhead housing.

8. (Original) A wellhead casing hanger, according to claim 7, wherein: said plurality of load segments includes urging means disposed between adjacent load segments, said urging means urging said plurality of load segments to said first, contracted position.

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9. (Original) A wellhead casing hanger, according to claim 8, wherein: said urging means are coiled tension springs.

10. (Previously presented) A wellhead casing hanger for insertion into a wellhead having an internal shoulder, comprising:

a hanger body, said hanger body having a bore extending therethrough; said hanger body having a stepped outer shoulder, said stepped outer shoulder configured to receive an expandable load ring thereon; said expandable load ring axially moveable between a first, contracted position allowing said wellhead casing hanger to pass through a specified minimum bore and a second, expanded position whereby said wellhead casing hanger is suspended on said expandable load ring when said expandable load ring engages an annular groove in a wellhead housing; and

said expandable load ring moved between said first, contracted position and said second, expanded position by engagement with an actuation ring when said actuation ring lands on the internal shoulder of the wellhead.

11. (Original) A wellhead casing hanger, according to claim 10, wherein:
said hanger body has an interior thread for attachment of a casing string to be suspended by said wellhead casing hanger.

12. (Original) A wellhead casing hanger, according to claim 11, wherein:
said hanger body has a reduced exterior diameter on one end to receive a packoff assembly between said hanger body and said wellhead housing.

13. (Original) A wellhead casing hanger, according to claim 12, wherein:
said hanger body has an exterior thread adjacent said reduced exterior diameter for attachment of a running tool.

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14. (Previously presented) A wellhead casing hanger, according to claim 13, wherein:

said stepped outer shoulder includes a cylindrical retainer surface concentric with the axis of said hanger body; and, said cylindrical retainer surface engages said expandable load ring to positively retain said plurality of load segments in engagement with said annular groove in said wellhead housing.

15.-32. (Cancelled)

33. (Previously presented) An assembly of a hanger adapted to support a tubular string, together comprising hanger weight, and a wellhead, comprising:

a wellhead having an actuation shoulder in a bore therethrough said actuation shoulder incapable of support of hanger weight, said wellhead further comprising an annular groove;

a hanger comprising a body further comprising an actuating ring configured to engage said actuation shoulder, said body further comprising a taper and an adjacent load ring capable of increasing dimension to enter said annular groove in said wellhead, when pushed against said taper when said hanger is lowered with said actuating ring landed on said actuation shoulder;

whereupon said entering of said load ring into said groove hanger weight can be first supported in said wellhead.

34. (Previously presented) The assembly of claim 33, wherein:

said body comprises a thread for support of the tubular string.

35. (Previously presented) The assembly of claim 33, wherein:

said body comprises a grapple to selectively grip the tubular string.

36. (Previously presented) The assembly of claim 34, wherein:

said grapple comprises a taper surrounding a bore in said body and at least one slip mounted to translate on said taper to selectively grip the tubular string upon relative movement between said slip and said taper.

37. (Currently amended) An apparatus for use in wellbores, comprising:

a first tubular member configured for insertion into a wellbore and having first and second external surfaces, the second external surface having a larger diameter than the first external surface;

a continuous load-ring assembly circumscribing the first tubular member and having at least one biasing member to bias the load-ring radially toward the first tubular member; wherein the first external surface defines a retracted radial position of the load-ring and the second external surface defines an expanded radial position of the load-ring to engage the load-ring with respect to a recessed portion of a second tubular member to support the first tubular member with respect to the second tubular member, and wherein the load-ring is axially displaceable with respect to the first tubular member; and

an actuation ring disposed radially outboard of and axially displaceable with respect to the first tubular, wherein the actuation ring is configured to engage with an internal shoulder of the second tubular member to at least partially define the axial position of the load-ring with respect to the first tubular member.

38. (Previously presented) The apparatus as recited in claim 37, wherein the load-ring comprises a plurality of segments coupled to one another via biasing members.

39. (Previously presented) The apparatus as recited in claim 38, wherein the biasing member comprise tension springs.

40. (Previously presented) The apparatus as recited in claim 37, wherein the first tubular member comprises a casing hanger.

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41. (Previously presented) The apparatus as recite in claim 37, wherein the first tubular member comprises a test plug.